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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,618	11/29/2001	Makoto Sato	0171-0800P-SP	2287

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EXAMINER

HU, HENRY S

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 08/26/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,618

Applicant(s)

SATO ET AL.

Examiner

Henry S. Hu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This Office Action is in response to the Amendment (Paper No. 5) filed on June 12, 2003. Claims 1 and 2 are original without any amendment. New Claims 3-7 were added. The examiner confirms the support of Claims 3-7 in the specification as stated by the Applicants on page 6 of amendment. With respect to the claim objection for Claim 1-(C) at lines 2-3 regarding "two hydrogen atoms each bound to a silicon atom in a molecule", the Applicants have pointed out a specific statement on paragraph bridging pages 7-8 for hydrosilyl groups. The Applicants have amended the structural formula on the top of page 1 to define the dimethyl-hydrosilyl group. In view of above amendment, both the specification objection and claim objection are now removed. **Claims 1-7 are now pending.** An action follows.

Claim Rejections - 35 USC § 103

2. *The limitation of parent Claim 1 in present invention relates to a curable fluoropolyether base rubber composition comprising:*

(A) 100 phr of a linear fluoropolyether compound containing at least two alkenyl groups in a molecule and having a perfluoroalkyl ether structure in its backbone.

(B) 10-40 phr of a surface-hydrophobized silica filler having a specific surface area of at least 100 m²/g and a vinyl content of 1×10^{-3} to 2×10^{-2} mol/100 g.

(C) an effective amount of an organosilicon compound having at least two hydrogen atoms each bound to a silicon atom in a molecule, and

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(D) a catalytic amount of a hydrosilylation catalyst.

3. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tarumi et al. (US 5,837,774) in view of Barthel et al. (US 5,591,797).

Since Claims 1-2 are original, the same rationale recited in paragraphs 5-9 of the previous action dated 03-12-2003 is incorporated herein by reference. ju

Regarding new **Claim 3**, Barthel teaches to use various organosilicon compounds reading on the limitation of Claim 3 (column 4, line 42-58). Regarding new **Claim 4-6**, Tarumi has disclosed the claimed component (A), (C) and (D) as discussed in Claim 1. The amount of component (C) added is from 0.1 to 20 phr of the fluoropolyether compound (column 8, line 47-67). Regarding new **Claim 7**, Tarumi discloses such a fluoropolymeric composition is useful as resins, rubbers, coating agents, paints, film materials and the like with the excellent properties such as water repellency, oil repellency, solvent resistance, chemical resistance, weatherability, releasability, lubricating qualities and the like shown in column 1, lines 6-36. It is conventional and obvious that these unique properties are useful for making the claimed articles. Therefore, a molded rubber article is included.

Response to Argument

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4. Applicant's Amendment (Paper No. 5) filed on June 12, 2003 has been fully considered but they are not persuasive. The focal arguments related to the patentability will be addressed as follows:

5. **Applicants:** Applicant has claimed an unexpected way of obtaining a curable fluoropolyether-based rubber composition comprising a linear fluoropolyether compound containing at least two alkenyl groups, a **surface-hydrophobized/vinyl-containing** silica filler, an organosilicon compound having at least two hydrosilyl groups, and a hydrosilylation catalyst. The prior art of Tarumi/Barthel only discloses surface-hydrophobized silica filler having no vinyl groups to be included in the **curable fluoropolyether rubber composition** (see Applicants' amendment on page 7, line 20 – page 8, line 4).

6. **Examiner:** Regarding the limitation of Claims 1-2 and the new Claims 3-7, the primary reference **Tarumi** discloses a **curable fluoropolyether rubber composition** comprising (a) a straight chain fluoro-polyether, (b) a polytetrafluoroethylene, (c) an organohydrogenpolysiloxane, and (d) a hydrosilylation reaction catalyst, wherein the **components (a), (c) and (d) read on the components (A), (C) and (D) in claimed limitation**. However, Tarumi is **silent about using surface-hydrophobized silica as filler**.

7. The secondary reference **Barthel** has already disclosed the preparation of claimed surface-hydrophobized/vinyl-containing silica by rendering hydrophobic with an organosilicon compound to have a claimed BET specific surface area of 40-450 m²/g with formulas shown the

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R group may include alkenyl radicals such as vinyl or allyl (see column 3, lines 53-67 and column 4, lines 14-15). Additionally, the amount of vinyl content is overlapping the claimed limitation from examiner's calculation on example 2 as discussed in previous action.

8. With respect to the linking motivation between Barthel and Tarumi, Barthel has disclosed that **such an obtained hydrophobic silica can be useful as a filler in a curable silicon rubber material composition** (see Barthel in abstract at lines 5-7), while Tarumi's composition comprises the components (a), (c) and (d) reading on the components (A), (C) and (D) in claimed limitation. The following three advantages have been discussed in previous action in page 5 at paragraph 8. The silica functions as both heat stabilizer and actively reinforcing filler. The hydrophobic surface of modified silica can therefore be homogeneously mixed into the silicon rubber material and still **keep the co-polymerization with other component at a high degree and efficiency due to the existence of alkenyl groups such as vinyl or allyl in the surface of silica, thereby a more homogeneous mixture can be obtained with a hydrosilylation reaction.** Therefore, Claims 1-7 are rejected over Tarumi in view of Barthel.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**


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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is (703) 305-4918. The examiner can be reached on Monday through Friday from 9:00 AM -5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (703) 308-2450. The fax number for the organization where this application or proceeding is assigned is (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0661.


Henry S. Hu

July 21, 2003


DAVID W. WU
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